REMARKS

In the patent application, claims 1-32 are pending. In the final office action, mailed July 18, 2007, claims 1-32 are rejected.

Applicant has canceled claim 1 and amended claims 2-8, 11, 12, 27-32.

Claims 2 and 4 have been amended to include the limitation of claim 1 and to change to word "modifying" to "scaling". The support for the amendment can be found on p.12, lines 21-25 of the specification.

Claims 3, 5-8, 11 and 12 have been amended to change the claim dependancy. Claims 27-32 have been amended to claim a computer readable medium, instead of claiming a software product.

No new matter has been introduced.

At section 8 of the office action, claims 27-32 are rejected under 35 U.S.C. 101 for claiming a software product embodiment in a computer readable storage medium. Applicant has amended claims 27-32 to claim a computer readable medium as suggested by the Examiner.

At section 10, claims 1-10 and 13-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Dischert et al.* (U.S. Patent No. 5,802,226 A, hereafter referred to as *Dischert*), in view of *Christopolous et al.* (U.S. Patent No. 6,526,099 B1, hereafter referred to as *Christopolous*).

In rejecting claims 1, 13, 18 and 27, the Examiner states that *Dischert* discloses a video editing method and device wherein the video data is modified to achieve a video effect (Figure 3A, memory 330, mixer 320). The Examiner admits that *Dischert* fails to disclose using error data. The Examiner points to *Christopolous* for disclosing error data (predictive error data; col.1, lines 40-49).

In rejecting claims 2, 5-7, 13, 18 and 27, the Examiner states that *Dischert* discloses modification of transform-domain video as claimed. The Examiner states that

Dischert discloses using a DCT module 60 to process the video data before conveying the video data to the mixer 80.

Applicant has canceled claim 1 and amended claims 2 and 4 to include the limitation of claim 1.

It is respectfully submitted that *Dischert* discloses two different embodiments.

The first embodiment is concerned with mixing the current video signal with a delayed video signal in order to achieve a video fade effect (col.1, line 66-col.2, line 5; col.2, line 66-col.4, line 34; Figures 3A-3E). As stated by the Examiner, *Dischert* uses a mixer 320 to mix the video signal VIN directly from the camera with a delayed video signal for the memory 330. The mixer 320 is also shown in Figures 9a and 10a. In Figure 3a, the modules 94 and 96 are multipliers for adjusting the amplitude of the input video signal based on a coefficient K (col.6, lines 48-56). Likewise, the modules 104 and 106 in Figure 10a are multipliers for adjusting the amplitude of the input video signal based on a coefficient K (col.6, line 64 to col.5, line 2). Thus the first embodiment is only concerned with mixing video signals in the time domain or spatial domain, and <u>not in a transform domain or compressed domain</u> as claimed in claims 2 and 4, for example.

The second embodiment is concerned with producing a mixed audio/video signal during trick play modes (such as fast forward). The second embodiment is shown in Figures 4, 5 and 6. As shown in Figure 4, *Dischert* uses a shuffler 406 to rearrange a portion of the audio signal from the audio analog/digital interface 402 so as to provide accurate image reproduction during the trick play mode (col.4, lines 36-45) and to distribute errors caused by defects in the tape over a larger audio surface. *Dischert* also uses a separate shuffler 408 to rearrange a portion of the video signal from the analog/digital interface 404 so as to provide for accurate reproduction of the video signal during the trick play mode and to distribute errors caused by defects in the tape over a larger video surface (col.4, lines 46-52). Before mixing the rearranged audio signal and the rearranged video signal, a coder 410 is used to transform the rearranged video signal into a transform video signal (Figure 4; Figure 6; col.4, lines 52-54; col.5, lines 47-60).

As shown in Figures 4 and 6, *Dischert* uses a coder 410 to mix signals from the shuffler 408 after transforming the signals with a DCT module 60 (see Figures 6) into a second domain such as the spatial frequency domain. The second domain can be a spatial frequency domain (col.5, lines 47-52).

Dischert also discloses mixing two rearranged video signals in the spatial frequency domain as depicted in Figure 8. As shown in Figure 8, one rearranged video signal is provided by the shuffler 408 and the other rearranged video signal from the decoder 512 after the video signal is decoded and dequantized. As shown in Figure 5, the video signal from the decoder 512 must be decoded and then processed by the de-shuffler 508. This means that both the video signals from the DCT module 60 and from the dequantizer 82 are rearranged video signals by the shuffler 408. After mixing by the mixer 80, the mixed signal is quantized and encoded before it is again combined with the rearranged audio signal in the encoder 412 (see Figure 4). The combined signal is recorded by a record/playback head 418 on a helical track of a magnetic tape for use in the trick play modes.

It is respectfully submitted that the claimed invention has nothing to do with trick play modes. A clip of audio/video signal in the trick play modes is only used in the fast-forward mode and has nothing to do with a video fade effect as claimed. In particular, the shuffler 408 is only to use to rearrange a portion of the video signal from the analog/digital interface 404 so as to provide for accurate reproduction of the video signal during the trick play mode and to distribute errors caused by defects in the tape over a larger video surface (col.4, lines 46-52). If the function of shuffler 408 is to rearrange a port of the video signal to be used in the fast forward mode, it is not likely to be useful in producing a video fade effect as claimed.

For the above reasons, the second embodiment of *Dischert* is also irrelevant to the invention as claimed.

Furthermore, the Examiner points to *Christopolous* for disclosing predictive coding wherein it is assumed that a value within a frame is related to some neighboring values, in the same or a different frame. But *Christopolous* only discloses how predictive coding can be used in a transcoder for transcoding between coding schemes having different resolution (col.4, liens 16-26). *Christopolous* does not disclose or suggest how

the predictive coding is used in mixing video signals for trick play modes. It is respectfully submitted that, in the claimed invention, the error data is used for motion compensated prediction in reconstructing a frame based on the previous frame. *Dischert* does not rely on a previous frame for reconstructing a video frame. Therefore, the rearrangement of video frames in the shuffler 408 is rather straightforward. But when error data is used in motion compensated prediction coding, it is not known how the video frames can be rearranged or shuffled by a device such as the shuffler 408 as disclosed in *Dischert*. Thus, when the predictive coding technique as disclosed in *Christopolous* is directly applied to the video/audio mixing method as disclosed in *Dischert*, the principle of video mixing for the trick play modes would be drastically different, even if it is plausible.

For the above reasons, *Dischert*, in view of *Christopolous*, fails to render claims 2-10 and 13-31 obvious.

At section 11, claims 11, 12 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Dischert*, in view of *Christopolous* and further in view of *Oguro* (U.S. Patent No. 5,477,276). The Examiner cites *Oguro* for disclosing advance fade-in effects.

It is respectfully submitted that claims 11, 12 and 32 are dependent from claims 2 and 27 and recite features not recited in claims 1 and 27. For reasons regarding claims 1 and 27 above, claims 11, 12 and 32 also distinguishable over the cited *Dischert*, *Christopolous* and *Oguro* references.

CONCLUSION

Claims 2-32 are allowable. Early allowance of claims 2-32 is earnestly solicited.

Respectfully submitted,

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Date: October 5, 2007

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